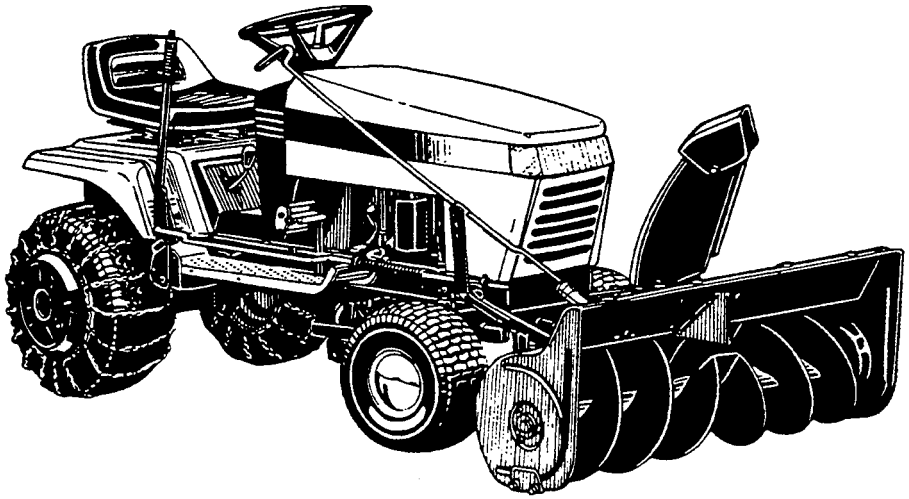
OPERATOR'S MANUAL

36" & 42" Snowthrower

(36" Snowthrower), **Mfg. No. 1691521**

(42" Snowthrower), **Mfg. No. 1691522**

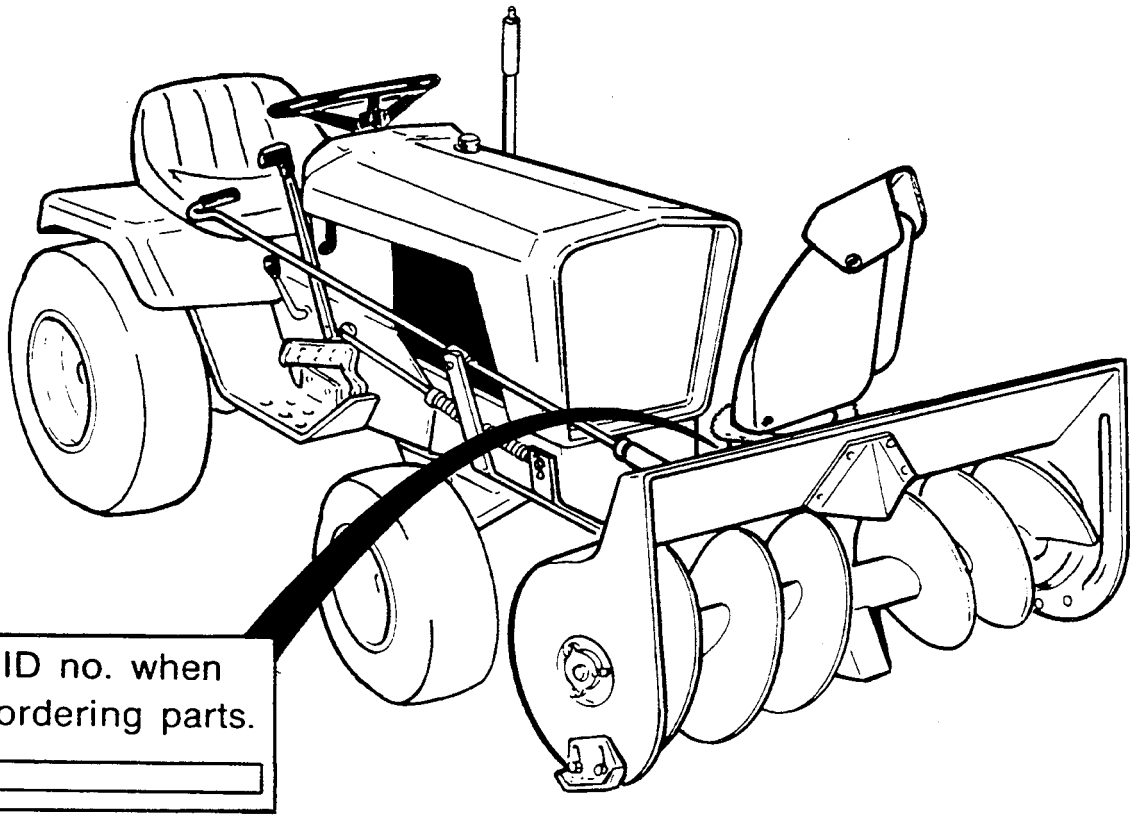
(Hitch Assembly), **Mfg. No. 1690557**



Simplicity®

Identification

When ordering replacement parts for your snowthrower, be prepared to give your dealer the identification number found on the identification plate shown below. We suggest you locate the number and record it here for easy reference.



Refer to ID no. when writing or ordering parts.

ID NO. _____

Accessories

See your dealer to purchase any of the following accessories for your tractor or snowthrower.

REAR WHEEL WEIGHTS - recommended to improve traction and increase stability. Required on slopes greater than 20% (11.3°).

CHAINS - recommended for best performance on slippery surfaces.

POWER LIFT KIT - enables the raising and lowering of snowthrower with the flip a switch.

SNOW CAB - shelters operator from cold wind and blowing snow.

ELECTRIC SPOUT ROTATOR - enables operator to control spout direction with the flip of a switch.

Models illustrated in this manual may vary slightly from the model you have.

Specifications

DIMENSIONS	36" Snowthrower	42" Snowthrower
Effective Width:	36 In. (914 mm)	42 In. (1067 mm)
Overall Width:	37-1/2 In. (953 mm)	43-1/2 In. (1105 mm)
Overall Length:	27 In. (686 mm)	27 In. (686 mm)
Opening Height:	19 In. (483 mm)	19 In. (483 mm)
Auger Diameter:	12 In. (305 mm)	12 In. (305 mm)

CONTROLS

Auger Drive: V-belt and auger chain.
Raise & Lower: Spring assisted tractor lift lever or optional electric lift or hydraulic lift.
Spout Rotation: Tee Handle to right of operator or optional electric spout rotator.

DRIVE TRAIN

Input Drive: Cushioning V-belt
Final Drive: Enclosed Roller Chain

CHASSIS

Auger Bearings: Self-aligning roller contact with lube fitting
Housing: Welded steel channel and stamping
Scraper Bar: Full width high carbon steel - Replaceable

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

Table of Contents

IDENTIFICATION ..... **Inside Front Cover**
ACCESSORIES ..... **Inside Front Cover**
SPECIFICATIONS 1
SAFETY RULES 2
SAFETY DECALS 3
INSTALLATION & REMOVAL 4
INSTALLATION 4
REMOVAL 6
OPERATION 8
CONTROLS 8
CHECK BEFORE STARTING 8
TRANSPORTING 8
ENGINE SPEED & GEAR SELECTION 8
SNOW REMOVAL SUGGESTIONS 9
NORMAL CARE 10
SCHEDULED CARE 10
NORMAL STORAGE 10
OFF-SEASON STORAGE 10
DRIVE CHAIN 11
TROUBLESHOOTING 12
ADJUSTMENTS 13
SKID SHOE ADJUSTMENT 13
DRIVE BELT TENSION 13
LIFT ROD ADJUSTMENT 14
ASSEMBLY 15
ASSEMBLY 15
WINTERIZING THE TRACTOR 18
TIRE CHAIN INSTALLATION 23
DECAL INSTALLATION 24
STANDARD FASTENER IDENTIFICATION CHART ..... **Inside Back Cover**

Safety Rules

Read these safety rules and follow them closely. Failure to obey these rules could result in loss of control of vehicle, severe personal injury to yourself or bystanders, or damage to property or equipment. The triangle ⚠ in the text signifies important cautions or warnings which must be followed.

⚠ ALL WARNING, CAUTION, and instructional messages on this attachment and on your tractor should be carefully read and obeyed. Personal bodily injury can result when these instructions are not followed.

GENERAL

- Read the Operating and Service instructions carefully. Be thoroughly familiar with the controls and the proper use of the equipment.
- Never allow children to operate the machine. Do not allow adults to operate it without proper instruction.
- Do not carry passengers.
- Use only attachments or accessories designed for your machine. See your dealer for a complete list of recommended attachments or accessories.
- Keep the area of operation clear of all persons, particularly small children, and pets.
- When using any attachments, never direct discharge of material toward bystanders or allow anyone near the tractor while in operation.
- Make sure:
  a. tractor and attachments are in good operating condition;
  b. all safety devices and shields are in good working condition;
  c. all adjustments are correct.

PREPARATION

- Never attempt to make any adjustments while engine is running.
- Thoroughly inspect the area where the snowthrower is to be used and remove all door mats, sleds, boards, wires and other foreign objects.
- Disengage all clutches and shift into neutral before starting operation.
- Do not operate snowthrower without wearing adequate winter outer garments. Wear footwear which will improve footing on slippery surfaces.
- Handle gasoline with care — it is highly flammable.
  a. Use approved gasoline container.
  b. Never remove the cap of the fuel tank or add gasoline to a running or hot engine, or fill the fuel tank indoors. Wipe up spilled gasoline.
- Adjust skid shoe height to clear gravel or crushed rock surface.
- Do not run the engine indoors. Exhaust fumes can be deadly.

OPERATION

- Disengage power to attachment(s) and stop the engine before leaving the operator's position.
- Always clear snow up and down the face of slopes, and never across the face. Exercise extreme caution when changing direction on slopes. Do not attempt to clear steep slopes.
- After striking a foreign object, disengage PTO, stop the engine, and remove ignition key. Thoroughly inspect the snowthrower for any damage before restarting and operating the snowthrower.
- Exercise extreme caution when operating on or crossing gravel drives, walks, or roads. Stay alert for hidden hazards or traffic.
- If the unit should start to vibrate abnormally, disengage PTO, stop the engine, and remove ignition key, and check immediately for the cause. Vibration is generally a warning of trouble.
- Disengage PTO, stop engine, and remove ignition key whenever you leave the operating position, before unclogging the snowthrower housing or chute, and before making any repairs, adjustments, or inspections.

- Take all possible precautions when leaving the vehicle unattended. Disengage the power take-off, lower the attachment, set the parking brake, stop the engine, and remove the key.
- When cleaning, repairing or inspecting make certain snowthrower and all moving parts have stopped. Remove ignition key to prevent accidental starting.
- Be especially careful not to touch tractor or attachment parts which might be hot from operation. Allow such parts to cool before attempting to maintain, adjust or service.
- Never operate snowthrower near glass enclosures, automobiles, window wells, dropoffs, etc., without proper adjustment of snow discharge angle.
- Do not overload machine capacity by attempting to clear snow at too fast a rate.
- Never operate machine at high transport speeds on slippery surfaces. Use care when backing.
- Disengage power to snowthrower when transporting or not in use.
- Never operate the snowthowwer without proper visibility or light. Always be sure your feet are properly placed on the foot rests and keep a firm hold on the steering wheel.

MAINTNENANCE & STORAGE

- Keep all nuts, bolts and screws tight to be sure the equipment is in safe working condition.
- Never store the equipment with gasoline in the tank inside a building where fumes may reach an open flame or spark. Allow the engine to cool before storing in any enclosure.
- Do not change the engine governor settings or overspeed the engine.
- To reduce the fire hazard, keep the engine free of grass, leaves or excessive grease.

⚠ WARNING

If the auger stalls or the chute plugs, Disengage the PTO, stop the engine and remove the key. Set the parking brake. WAIT FOR MOVING PARTS TO STOP. Remove the foreign object or clear the spout before restarting the engine.

Safety Decals

CAUTION
TO AVOID POSSIBLE INJURY
• REFER TO OPERATOR'S MANUAL FOR SAFETY AND OPERATING INSTRUCTIONS.
• KEEP ALL GUARDS AND SHIELDS IN PLACE.
• STOP ENGINE, REMOVE KEY, AND BE SURE ALL MOVING PARTS HAVE COME TO A COMPLETE STOP BEFORE SERVICING OR UNPLUGGING.
• DO NOT USE HANDS TO UNPLUG CHUTE OR AUGER.
• ALWAYS DIRECT DISCHARGE SO AS TO AVOID INJURY OR DAMAGE TO PERSONS OR PROPERTY.
• NEVER ALLOW ANYONE IN FRONT OF OPERATING MACHINE.

Installation & Removal

INSTALLATION

1. The snowthrower hitch must be installed on front axle as shown in figure 2. To do this, first insert the hitch arms in tractor hitch as shown in figure 2. To align the holes, push the snowthrower hitch onto the front axle so it hooks firmly on top of axle as shown in figure 1. Insert the two pins (C, figure 2) to secure the hitch and install the two spring clips (D).

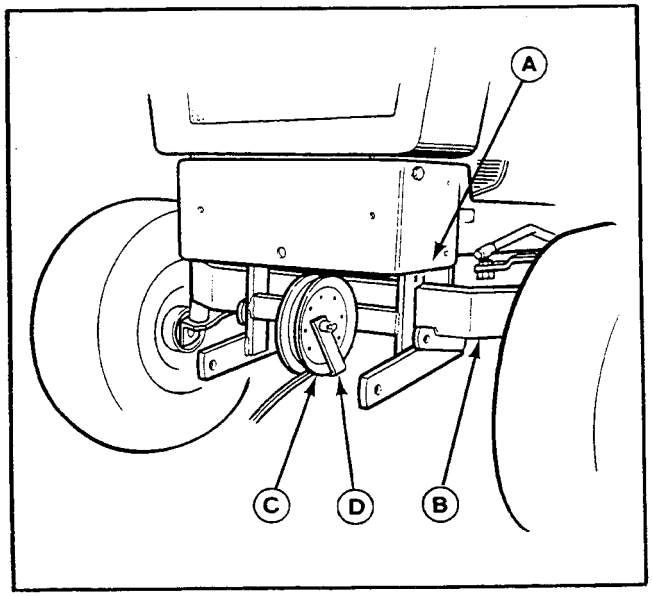


Figure 1. Install Hitch

A. Hitch hooked on top of axle.
B. Front Axle
C. Flat Idler Pulley
D. Belt Stop

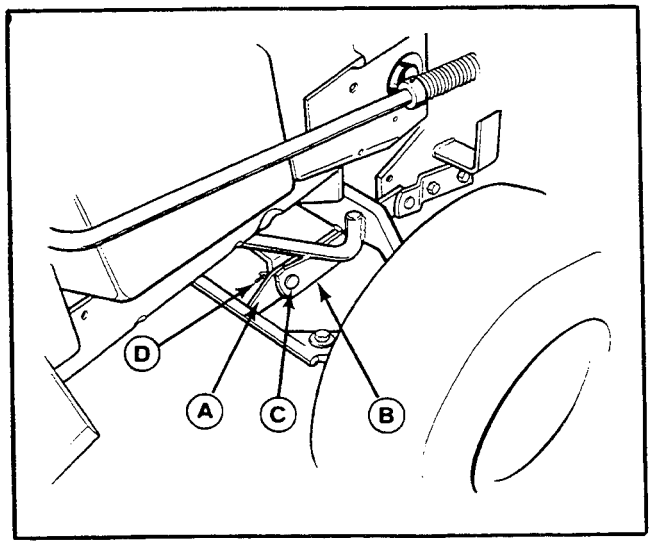


Figure 2. Install Hitch

A. Snowthrower Hitch Arm (right side)
B. Tractor Hitch
C. Pin
D. Spring Clip

2. Position the snowthrower in front of the tractor.
3. Lift up the snowthrower and align with hitch (C) as shown in figure 3. On each side, insert pin (A) thru the clip (B), hitch, and snowthrower. Install spring clips in the two pins.

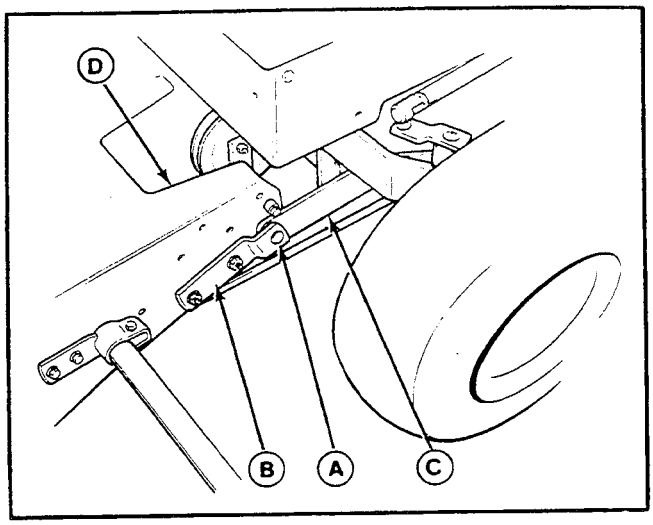


Figure 3. Attach Snowthrower to Hitch

A. Pin
B. Clip
C. Hitch
D. Snowthrower

4. Go around to the left side of the tractor. Remove the front idler pulley (D, figure 4) by removing the capscrew and attaching hardware. Store the capscrew; it will not be used with snowthrower.

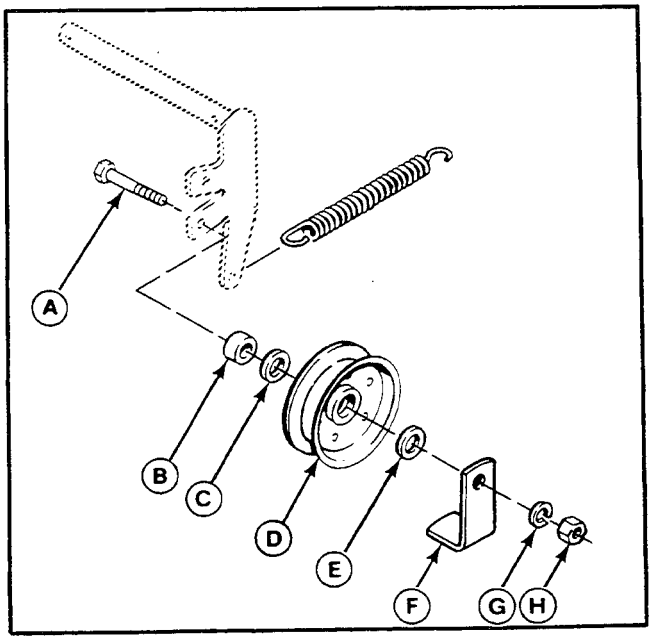


Figure 4. Idler Pulley & Belt Stop (on tractor)

A. Capscrew, 3/8 x 2-1/4
B. Spacer
C. Washer
D. Idler Pulley

5. Reinstall the pulley in lower tab as shown in figure 4 using the 2-1/4 inch long capscrew (A) and the belt stop (F) supplied with the hitch. Slip the belt between pulley and belt stop before tightening (flat side of belt goes against pulley).
6. Push the belt tensioning lever down and forward. Install the belt on the pulleys as shown in figure 5. Be sure to install belt in inner groove of PTO pulley. There must be no twists in the belt.
7. Pull the belt tensioning lever back and up. Make sure there is clearance between the belt stops (D, E & H, figure 5) and the belt.
8. Insert end of lift rod through hole in tractor lift arm (A, figure 6). Install the spring clip (B) through hole in lift rod (C).
9. If installing for the first time, perform initial adjustment as follows:
   a. Fully lower the lift lever. Place the front set collar one inch from the rod guide as shown in figure 7, and tighten the setscrew.
   b. Place rear set collar against the spring, compress the spring slightly, and tighten the setscrew. (The more the spring is compressed, the more down pressure there will be.)

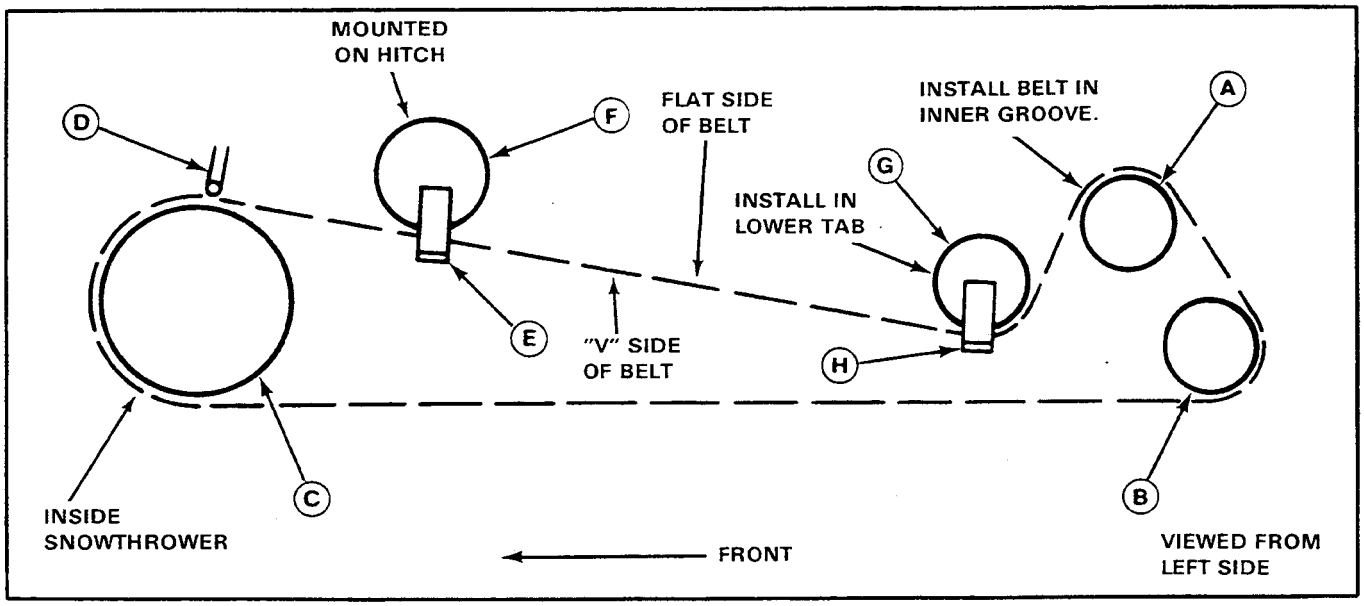


Figure 5. Belt Diagram

A. PTO Pulley
B. Rear Idler Pulley
C. Snowthrower Pulley
D. Belt Stop
E. Belt Stop
F. Idler Pulley
G. Front Idler Pulley
H. Belt Stop

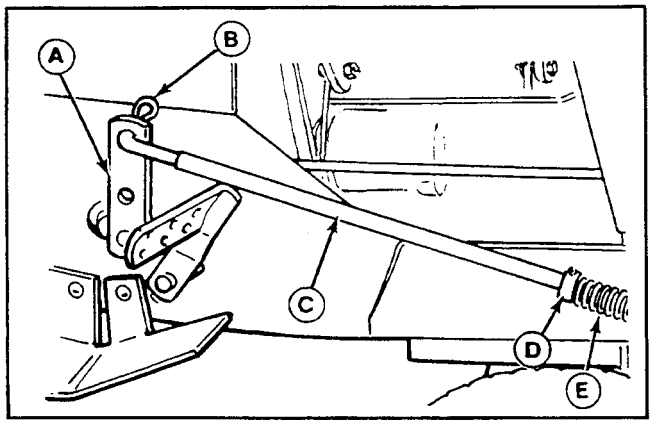


Figure 6. Attach Lift Rod

A. Tractor Lift Arm
B. Spring Clip
C. Lift Rod
D. Rear Set Collar
E. Spring

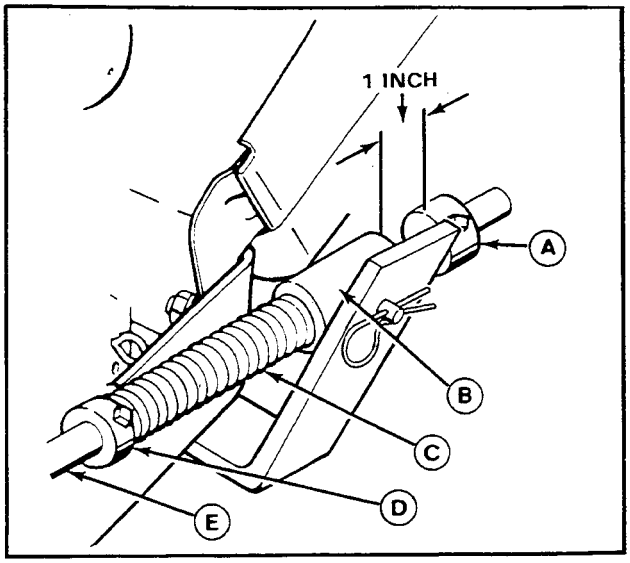


Figure 7. Lift Rod Adjustment

A. Front Set Collar
B. Rod Guide
C. Spring
D. Rear Set Collar
E. Lift Rod

10. On the 900 and 7100 Series tractors, connect the spring-assist chain as follows:
    a. Raise the snowthrower.
    b. Pull the tension lever (A, figure 8) to rear.
    c. Hook the spring (B) onto the chain (C) and lever arm (A).

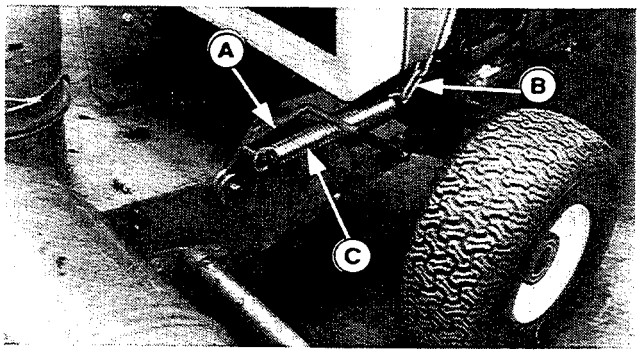


Figure 8. Install Spring (900, 7100 Series)
A. Tension Lever C. Chain
B. Spring

    d. Rotate the lever (A, figure 9) forward so that it travels "over center" and remains in position shown in figure 9.
    e. Lower the snowthrower.
    f. Tighten the capscrew (B) and locknut.

> **WARNING**
> **Never pull the tension lever back, unless snowthrower is in full raised position. Spring is under tension in lowered position.**

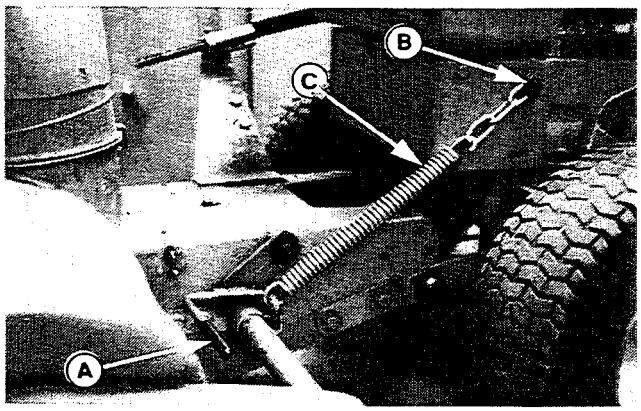


Figure 9. Rotate Lever
A. Tension Lever
B. Capscrew
C. Spring

11. On the 700 and 7000 Series tractors, connect the spring as follows:
    a. Raise the snowthrower
    b. Pull the tension lever (A, figure 8) to rear.
    c. Connect one end of spring to hole in front tractor frame as shown in figure 10. Connect the other end to lever arm as shown.
    d. Rotate the lever (A, figure 9) forward so that it travels "over center" and remains in position shown in figure 9.
    e. Lower the snowthrower.

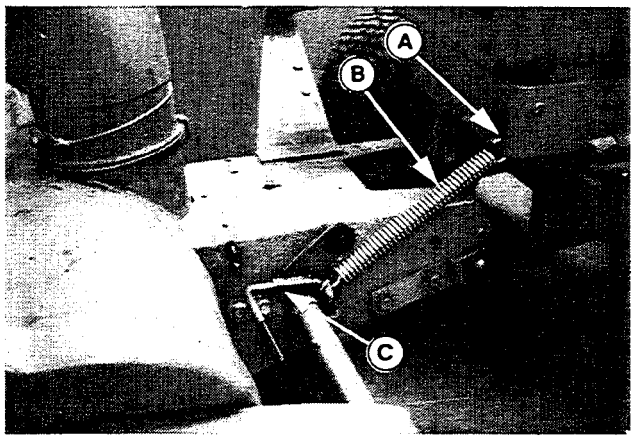


Figure 10. Install Spring (700, 7000 Series)
A. Frame Hole
B. Lever Arm
C. Spring

REMOVAL

> **WARNING**
> **On snowthrowers with spring assisted lift, never pull the tension lever (A, figure 8 or B,figure 10) back unless snowthrower is in full raised position.**

1. Raise the snowthrower using the lift lever. Then grasp the lever (A, figure 8) and pull fully back. Disconnect the spring (B, figure 8 or C, figure 10) from the lever and chain (900, 7100 Series) or frame hole (700, 7000 Series).
2. Lower the snowthrower.
3. Remove the spring clip (B, figure 6) and pull the lift rod (C) out from tractor lift arm (A). Store the spring clip in the lift rod hole.
4. Push the belt tensioning lever down.

5. Remove the belt from the PTO pulley (A, figure 5) and from the two idler pulleys (B & C). If a mower attachment is to be used on the tractor, remove the front idler pulley (D, figure 4) and install it in upper tab.
6. Remove the snowthrower from the tractor by using either one of the following methods "a" or "b". (The belt may remain on snowthrower pulley unless removal is desired for storage.)
   a. Remove the two pins and spring clips (C and D, figure 11) from snowthrower clips (E), remove the snowthrower clips (E), then remove the snowthrower. Remove the two pins and spring clips (C and D) that secure snowthrower hitch, then remove it from the tractor hitch.
   b. Remove the two pins and spring clips that secure snowthrower hitch (A, figure 11) to tractor hitch (B). Remove the snowthrower and hitch by pulling up and away from tractor hitch.
7. To use tractor without snowthrower, decrease tire pressure to normal psi (see tractor Operator's Manual).

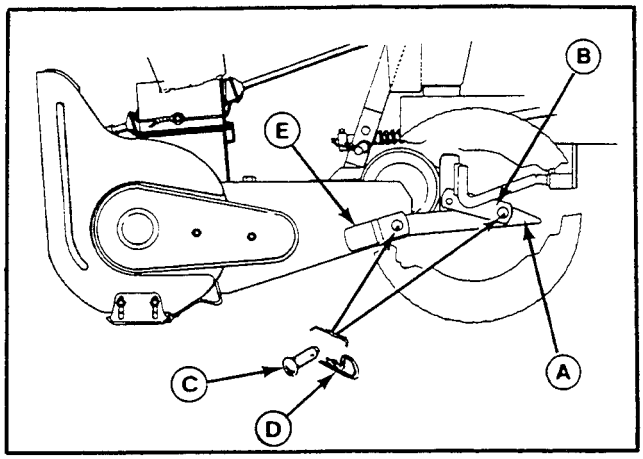


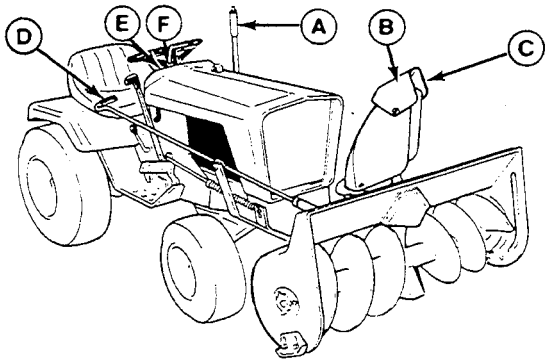
Figure 11. Attach Snowthrower

A. Snowthrower Hitch
B. Tractor Hitch
C. Pin
D. Spring Clip
E. Clip

Operation

CONTROLS

Figure 12 shows the locations, names and functions of the snowthrower controls.



Item	Name	Function
A	Lift Lever	Lifts and holds the snowthrower in its transport position & lowers snowthrower for operation.
B	Deflector	Used to control the height and distance snow is thrown.
C	Wing Nut	Holds deflector in position.
D	Spout Control	Controls the direction in which snow is thrown.
E	Electric Lift Switch (Optional)	When installed, used in place of item A to lift and lower snowthrower
F	Electric Rotator (Optional)	When installed, used in place of item D to rotate spout.

Figure 12. Controls

CHECKS BEFORE STARTING

1. Check the tires for proper inflation pressure: 20 psi (138 kPa) is recommended for front tires when snowthrower is installed.
2. Refer to Normal Care section of this manual to determine and perform needed care. Also refer to the Normal Care section in the Operator's Manual to be sure the tractor is prepared for winter use.
3. Clear the area of operation of all articles which might be caught in or thrown by the snowthrower.
4. Adjust the chute deflector by loosening the wing nut and moving the deflector up or down. Be sure to tighten the wing nut after positioning the deflector. Most snowthrowing can be done with the deflector all the way up and the engine at 3/4 to full speed.
5. Clear the auger of any ice particles which may damage the auger.
6. Adjust the skid shoes as outlined in the Adjustment section of this manual to suit the type of surface you will be operating on.
7. Make sure all screws, nuts and pins are installed and secure.

⚠ WARNING
SLOPE OPERATION

Never operate on slopes greater than 34 percent (19.3°) which is a rise of 3-1/2 feet (1067 mm) vertically in 10 feet (3.1 m) horizontally. When operating on slopes greater than 20 percent (11.3°), one wheel weight on each rear wheel and tire chains are required. Select slow ground speed before driving onto a slope. Do not use brakes to control speed. On Semi-Automatic and 6-Speed models, do not attempt to shift gears while on slopes because once out of gear, it may not be possible to shift into another gear. Drive UP and DOWN the slope, never across the face. Use caution when changing directions and DO NOT START OR STOP ON SLOPES.

TRANSPORTING

Disengage the PTO and then raise the snowthrower. Adjust ground speed according to ground conditions.

ENGINE SPEED & GEAR SELECTION

Set the tractor engine control for 3/4 to full speed for normal snow throwing. Full engine speed is best when throwing wet and heavy snow. Use the slower engine speeds to adjust the throwing distance during operation and when throwing light snow.

The tractor ground speed will depend upon the type and amount of snow that must be cleared. For most conditions, 1 to 2 mph (1.6 to 3.2 km/h) is a good starting speed. Refer to your tractor manual and set the transmission gear shift or control lever accordingly. As the snow gets heavier and wetter, you will want to increase engine speed and decrease tractor speed.

SNOW REMOVAL SUGGESTIONS

CAUTION

Always raise the snowthrower before turning or backing to prevent damage to it.

Determine the best snow removal pattern before beginning. Wind direction is an important factor to consider. Rotate the spout to discharge snow downwind. Plan the pattern so that you avoid throwing snow on cleared areas on on yourself as you're operating.

When land contour permits, it is best to travel in the longest direction to minimize turning.

WARNING

If the auger stalls or the chute plugs, disengage the PTO, stop the engine and remove the key. Set the parking brake and WAIT FOR MOVING PARTS TO STOP. Remove the foreign object or clear the spout before restarting engine.

In very deep or heavy snow, it may be necessary to make the first pass with snowthrower partially raised, backing up every few feet to clear the snow left on the surface. Also, it may be necessary to slice off less than the full width of the auger or to reduce ground speed. If the snow stops flowing freely from the spout, use reverse to back away until snowthrower clears itself.

Normal Care

SCHEDULE FOR NORMAL CARE

A schedule for normal, routine care is given in the following chart.

Care Required	Schedule
Clean snow and ice from snowthrower.	After Each Use.
Lubricate snowthrower. (figure 14)	Every ten hours or at least once a year.
Inspect, adjust and lubricate drive chain.	Once a year or more often under frequent use.

Normal Care Chart

⚠ WARNING

For your personal safety, disengage PTO, stop engine, remove key, set parking brake, and be sure snowthrower auger has stopped turning before attempting to maintain, service or adjust the snowthrower.

NORMAL STORAGE

Between snow removal jobs, the tractor and snowthrower are best stored in a cool, dry area. If the unit is stored in a warm (above freezing temperature) area, it should be moved outdoors and allowed to cool before beginning work. Otherwise, the snow may melt on the warm surfaces of the snowthrower and then freeze where it can cause jams.

Before returning the unit to storage, stop the tractor and remove key from ignition. Then brush off all snow from both the snowthrower and the tractor. If possible, restart the tractor engine and allow it to idle for about 5 minutes. This will help melt and dry up snow in hidden areas of the engine. These efforts will help avoid freezeups that might otherwise hinder easy starting and operation the next time the unit is needed.

OFF-SEASON STORAGE

To protect your snowthrower, store it in an enclosed dry area. Prepare the snowthrower for off-season storage as follows:

1. Remove snowthrower from tractor.
2. Hose or brush the main housing to remove all dirt and chipped paint.
3. Paint or lightly coat with oil any area where paint has worn or chipped away.
4. Lubricate snowthrower (figure 14).
5. Store the snowthrower in a dry place. Store the belt in a cool, dark place away from heat and sunlight.
6. To save space, the hitch can be removed for storage by removing the two pins and spring clips attaching to the snowthrower, and by removing the belt from the snowthrower auger pulley.
7. If the tractor is to be used in warm weather, remove the winterizing deflector and carburetor shield to avoid engine overheating and damage.

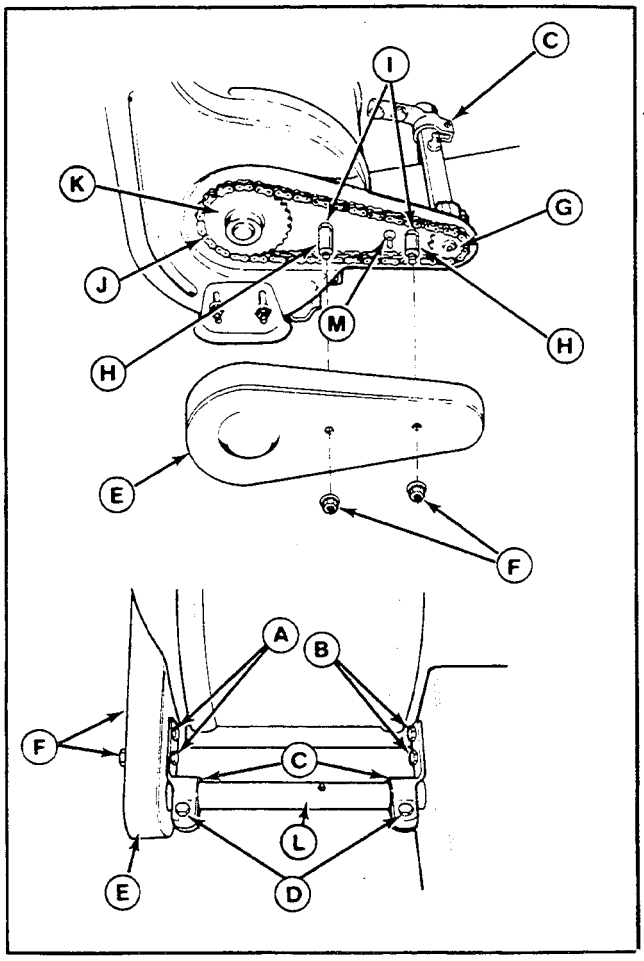


Figure 13. Drive Chain

A. Screws
B. Nuts
C. Clamps
D. Screw
E. Chain Guard
F. Nuts
G. Drive Shaft Sprocket
H. Spacers
I. Nuts
J. Chain
K. Auger Sprocket
L. Drive Shaft Housing
M. Flange Nut

Troubleshooting

⚠ WARNING

To avoid serious injury, perform maintenance on the tractor or snowthrower only when the engine is stopped. Always remove the ignition key before beginning maintenance to prevent accidental starting of the engine.

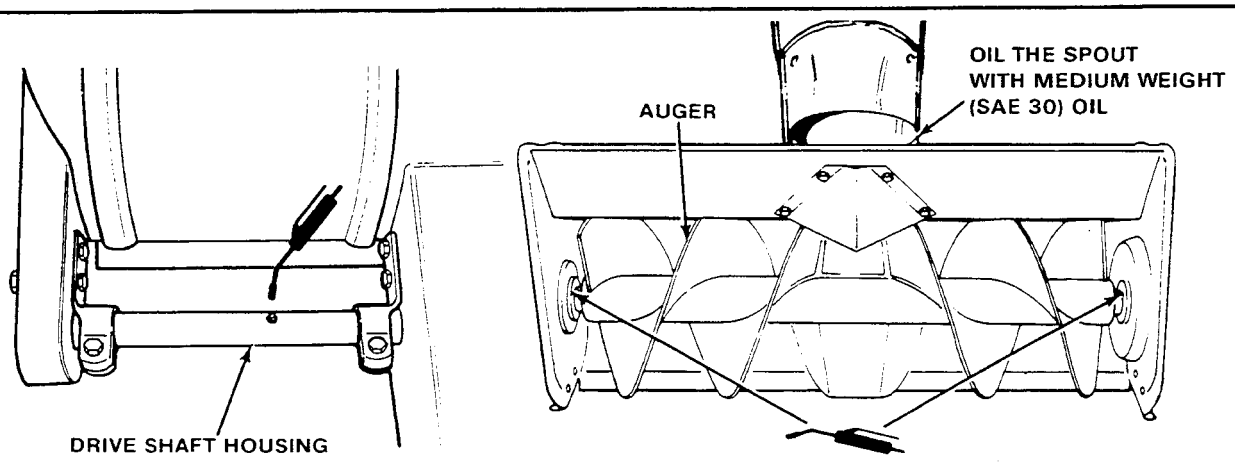
Troubleshooting procedures are provided below. To use these procedures, first locate the problem description that best describes the trouble that you have encountered. Check the possible causes one at a time in the order that they are listed. Correct any problems that are found and try to operate the snowthrower again to see if you have eliminated the trouble.

Problem		Cause/Remedy
1. Snowthrower auger does not rotate.	**A.**	PTO lever not engaged. Engage PTO lever. See Operation section.
	B.	Foreign material blocking auger. STOP engine. Remove key. Unplug auger.
	C.	Snowthrower drive belt slipping. Adjust drive belt tension. See Adjustments section.
	D.	Drive chain broken. Replace parts as necessary.
2. Auger rotates, but snow not thrown far enough.	**A.**	Engine RPM too slow. Operate engine at 3/4 - full throttle.
	B.	Ground speed too fast. Use low gear.
	C.	Snowthrower discharge spout clogged. STOP engine. Remove key. Unplug discharge spout.
3. Scraper bar does not clean down to hard surface.	**A.**	Skid shoes not properly adjusted. Adjust skid shoes. See Adjustments section.
4. Snowthrower picks up and throws stones on gravel drive.	**A.**	Skid shoes not properly adjusted for gravel surface. Adjust skid shoes. See Adjustments section.
	B.	Too much down pressure on snowthrower. Use the tractor lift lever to raise the snowthrower slightly. See Operation section.
5. Tractor does not have sufficient traction.	**A.**	Tractor too light at rear wheels. Use rear wheel weights and tire chains. See Accessories.
6. Tractor not stable on sloping surfaces.	**A.**	Ground speed too fast. Reduce ground speed.
	B.	Tractor not properly weighted. Use rear wheel weights and tire chains. See Accessories.
	C.	Tire pressure incorrect. Inflate tires according to tractor operator's manual.
7. Auger does not stop when PTO is disengaged.	**A.**	Snowthrower brake not properly adjusted. Adjust brake. See Adjustments section.
	B.	Belt tension not properly adjusted. Adjust belt tension. See Adjustments section.
	C.	Belt stops not properly adjusted. Adjust PTO pulley belt stops. See Adjustments section.

Table 1. Troubleshooting Procedure

INSPECT, LUBRICATE & ADJUST DRIVE CHAIN

1. Remove the chain guard (E, figure 13) by removing the two nuts (F).
2. Check the chain for wear or damage. Replace chain if worn or broken.
3. There should be no slack in the chain and the sprockets (G & K) should be aligned. The drive shaft housing (L) should be parallel with the auger housing. To adjust, proceed as follows.
   a. Loosen the two screws (A) and two nuts (B).
   b. Pull rearward on the drive shaft housing (L) until all slack is removed from chain. With drive shaft housing parallel to auger housing and sprockets aligned, retighten the two screws (A) and nuts (B). Be sure to hold nuts while tightening screws (A) and hold screws (inside housing) while tightening nuts (B). Torque to 40-45 ft. lbs.
   c. Spread a coat of grease on the chain, working the grease into the links.
   d. Reinstall the chain guard and grease two nuts (F).



Symbol	Use	Apply With	Procedure
	Lithium base automotive grease	Grease Gun	1. Wipe fitting clean with rag. 2. Apply 2 or 3 shots of grease. 3. Wipe up any excess grease.

Figure 14. Lubricate Snowthrower

Adjustments

WARNING

To avoid serious injury, perform adjustment procedures on the tractor only when the engine is stopped. Always remove the ignition key before beginning the adjustment procedures to prevent accidental starting of the engine.

SKID SHOE ADJUSTMENT

The skid shoe can be adjusted up or down to keep the snowthrower working efficiently on various types of surfaces.

On smooth, hard surfaces, such as concrete or asphalt, the skid shoes should be adjusted so that the scraper bar is resting on the surface.

To adjust the skid shoes up or down, loosen the two nuts holding each skid shoe and move the skid shoes to the desired position (see figure 15). Tighten the nuts securely, making sure the skid shoes are parallel to the ground surface and both adjusted to the same level.

On rough surfaces, such as gravel, the skid shoes should be adjusted down. This helps to keep the scraper bar above the ground so that it does not pick up stones. Use scraps of wood to raise the scraper bar about 1 inch (25 mm) above the level ground surface. Then drop the skid shoes down to the ground, keeping the bottom edge of the skid shoes level. The snowthrowers will now be supported by the skid shoes.

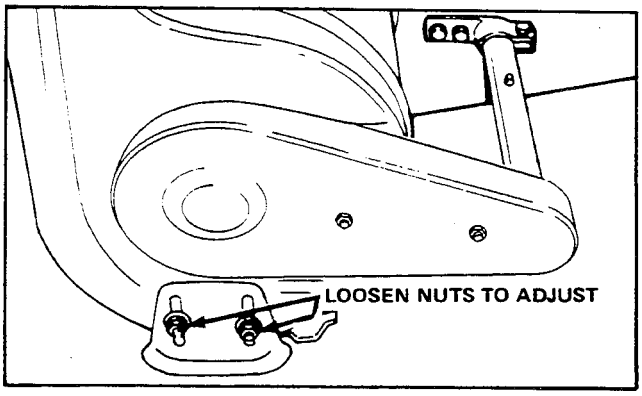


Figure 15. Skid Shoe Adjustment

DRIVE BELT TENSION

1. Pull the belt tensioning lever back and up to engaged position to tighten the belt.
2. Locate the decal on the front idler pulley bracket shown in figure 16. Notice it has a front red zone, a green zone and a rear red zone. The rear edge of the front idler bracket should be in the front edge of the front red area as in figure 16. If not, go on to step 3.

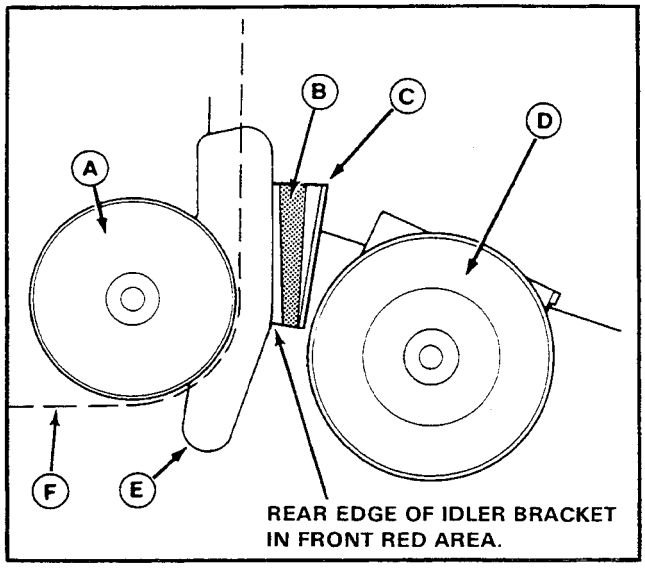


Figure 16. Adjustment

A. Front Idler
B. Green Zone
C. Stop
D. Rear Idler
E. Front Idler Bracket
F. Belt

3. Push the belt tensioning lever down to release belt tension.
4. Loosen the fasteners which secure the rear idler in the slot. To move idler bracket forward, move the rear idler pulley toward the rear. To move idler bracket rearward, move the rear idler pulley toward the front. Tighten the fasteners.
5. Pull the belt tensioning lever up to engaged position to tighten the belt.
6. The rear edge of the idler bracket should be in the front edge of the front red area as in figure 16. If not, repeat the adjustment procedure.

CAUTION

In no instance should the belt, where it passes behind the front idler pulley, come in contact with the rear idler pulley. Allow sufficient clearance.

LIFT ROD ADJUSTMENT

WARNING

On tractors with hydraulic lift levers it will be necessary to start the engine to raise or lower the lift lever. Always seat yourself in operator's position before starting engine. Always shut off engine and remove key before leaving seat. Make sure parking brake is set and moving parts have stopped.

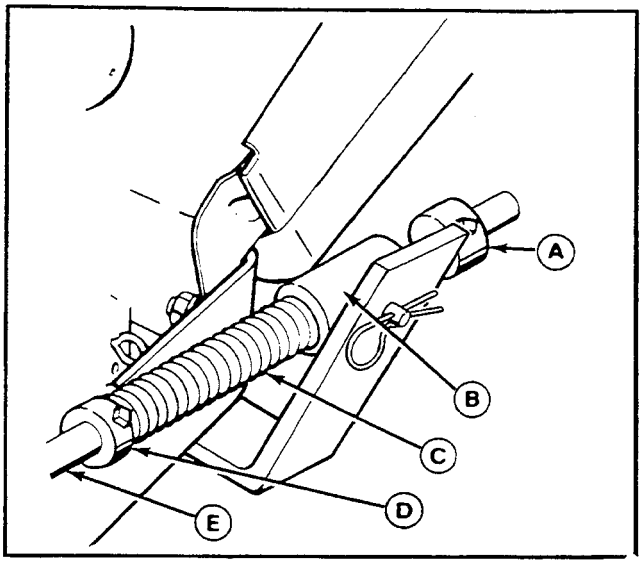


Figure 17. Lift Rod Adjustment

A. Front Set Collar
B. Rod Guide
C. Spring
D. Rear Set Collar
E. Lift Rod

1. Fully raise the snowthrower. Measure the clearance between the scraper bar and the ground. The clearance should be about 3-1/2 to 4 inches (89 to 102 mm). If not, perform step 2. If clearance is correct, go to step 3.
2. Lower the snowthrower. Loosen the setscrew ion the front set collar (A, figure 17). To increase clearance, move the set collar toward the rod guide (B). To decrease clearance, move the set collar away from rod guide (toward front). Tighten the setscrew. Raise the snowthrower and recheck the measurement. Readjust if necessary.
3. The scraper blade will float over the surface bumps or dig into them depending on the down pressure. The initial adjustment made during snowthrower installation may be suitable. If not, fully raise the snowthrower. Loosen the setscrew in the rear set collar (D). To allow scraper blade to float more, move the rear set collar toward the rear. To increase down pressure, move the rear set collar toward the spring (C). Tighten the setscrew. Lower the lift lever.

WARNING

On tractors with hydraulic lift levers, keep hands and feet from under snowthrower when snowthrower is in raised position. Snowthrower may lower when engine is off.

Assembly

ATTENTION SETUP PERSONNEL:

As setup personnel you have an obligation to know the product better than the customer. This includes safety related items. Prior to actual setup, thoroughly familiarize yourself with the tractor Operator's Manual. Pay special attention to all safety warnings. It is possible during setup to place yourself in a position which is more hazardous than when the unit is in operation. Remember, it is your responsibility to set up the product safely and to know it well enough to be able to instruct a customer in the safe use of his power unit.

Safety is a matter of common sense . . . A matter of thinking before acting. Most shops have specific safety practices. Follow them. The precautions listed in the Operator's Manual should not supersede existing practices but should be considered as supplemental information.

CONTENT OF SECTION

The snowthrower is shipped only partially assembled for packaging reasons. This section provides the necessary instructions for assembling the snowthrower.

ASSEMBLY

Remove all loose parts, the skin pack, and the snowthrower from the shipping carton. Open the skin pack and hardware bags and arrange all parts according to size and type. Then proceed as follows:

NOTE

Refer to chart inside back cover to identify screws, nuts and washers.

1. Install support bracket (C, figure 18) as shown with 3/8 x 1 capscrews and flange locknuts (A & B).

NOTE

Do not let pivot bearing along support the full weight of control rod, as the bearing can be damaged.

2. Insert end of spout control rod (E, figure 18) through plastic pivot bearing (D) on auger housing. Install a 3/32 x 5/8 inch (2.4 x 16 mm) cotter pin in the lower rod hole on the inside of the housing, and spread cotter pin legs fully around rod. Pull the rod back so cotter pin is up against pivot bearing and install another cotter pin through the rod just above the bearing. Spread cotter pin legs fully around the rod.
3. Place the thin plastic liner (G, figure 18) inside the rod guide (H).
4. Install rod guide and liner over spout control rod as shown. Attach rod guide to support bracket with a 5/16 x 1-1/8 capscrew and a locknut (F & I, figure 18). Tighten locknut (usually flush with end of capscrew) so control rod is held firmly but is still free enough to turn inside of rod guide.

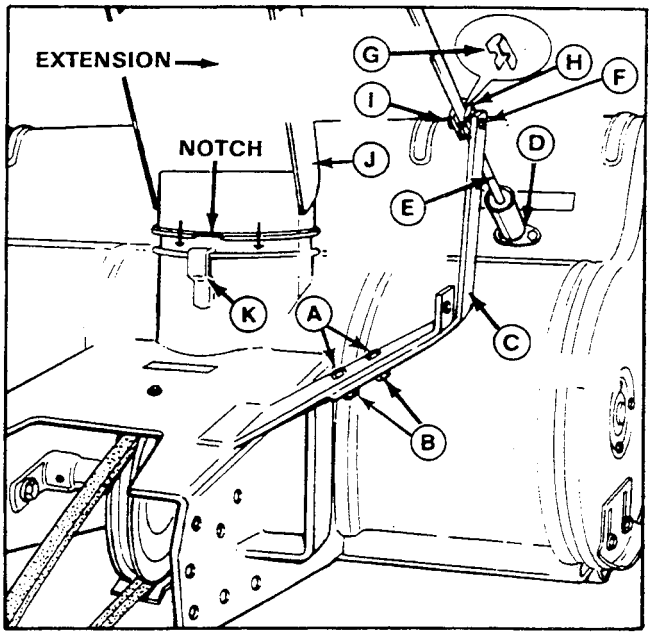


Figure 18. Installing Spout Control

A. Capscrews
B. Flange Locknuts
C. Support Bracket
D. Pivot Bearing
E. Control Rod
F. Capscrew
G. Plastic Liner
H. Rod Guide
I. Locknut
J. Spout Extension
K. Clip

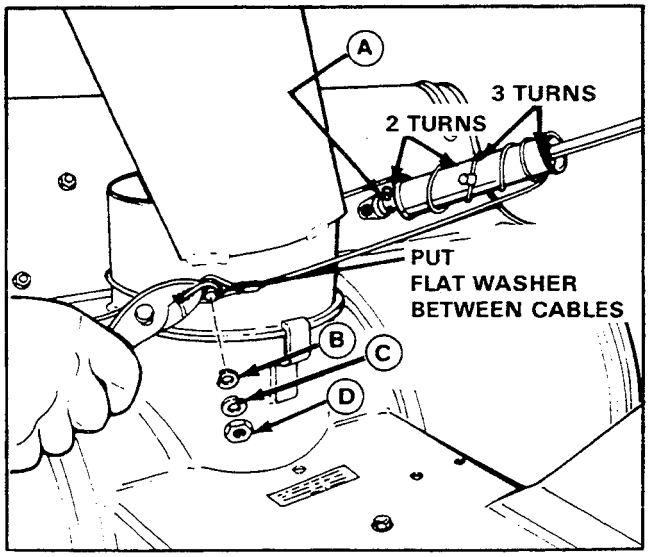


Figure 19. Installing Control Cable

A. Cotter Pin
B. Cup Washer
C. Lockwasher
D. Nut

5. Install the spout extension (J, figure 18) on the housing openings so the clip (K) on the housing is positioned in the notch on the spout extension. Then rotate spout extension slightly to start its rim under the clip. Oil mating surfaces so spout extension rotates freely.
6. Witht the spout extension facing slightly left, wind the cable around the control rod spool as shown in figure 19. Wind three turns on the rear part of the spool so that the cable leaves the spool on the lower edge as shown. Wind two turns on the front part of the spool so that the cable leaves the spool on the upper edge as shown. If necessary, loosen the cable clamp and then retighten after winding the cable.
7. Place the looped end of the cable over the stud on the spout extension (see figure 19). Place the small flat washer provided on the stud. Pull the other end of the cable around the stud as shown with a pliers. While holding the cable tight, install the cup washer (facing inward), lockwasher and nut to hold the cable. Tape any loose cable neatly to the taut cable.
8. Attach the deflector (J, figure 20) to the spout extension with two screws (H), washers (G), spacers (F), washers (A), lockwashers (E) and nuts (D).

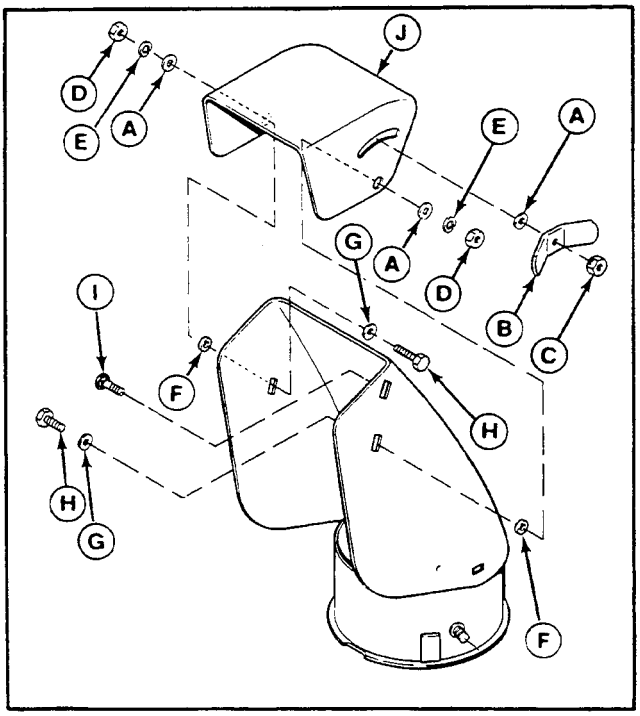


Figure 20. Installing Deflector

A. Washer, 5/16
B. Wing Nut
C. Locknut, 5/16
D. Nut, 5/16
E. Lockwasher, 5/16
F. Spacer
G. Washer, 5/16
H. Screw, 5/16
I. Carriage Bolt, 5/16
J. Deflector

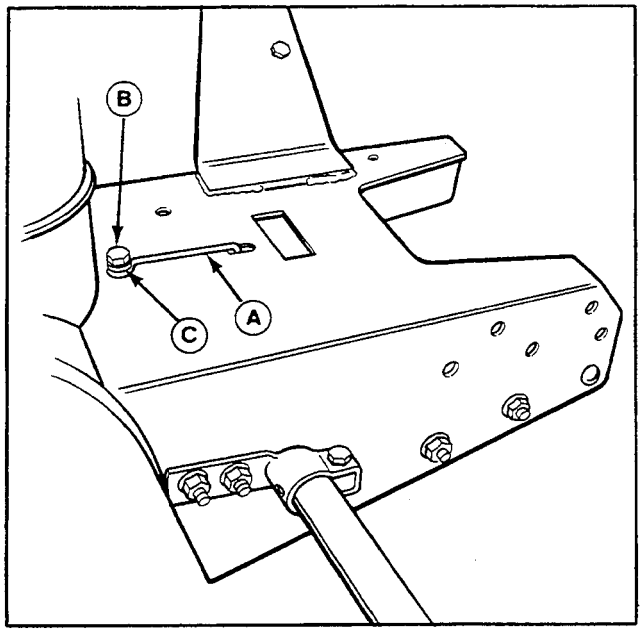


Figure 21. Snowthrower Pulley Belt Stop

A. Belt Stop
B. Capscrew
C. Plain Washer

9. Install the two clips (I, figure 22) as shown with four capscrews (P) and flange locknuts (J).
10. Install the two spacers (M) as shown with two capscrews (L), lockwashers (N) and nuts (O).
11. Slip the belt onto the pulley inside the snowthrower. The "V" side of belt rides in the pulley.
12. Insert the belt stop (A, figure 21) thru hole in snowthrower and position as shown. The belt stop leg (inside snowthrower) should be positioned over top of belt on snowthrower pulley. Install the belt stop with capscrew (T, figure 22), washer (S), lockwasher (Z) and nut (AA).
13. Slip the belt between the belt stop (AB, figure 22) and pulley (C), loosening the belt stop as necessary. The flat side of belt rides against the pulley. Tighten the belt stop.
14. Connect the lift rod to the snowthrower by inserting the mounting tip of the rod guide (W, figure 22) in the support bracket hole. Insert the sping clip (Q) to secure in place.
15. On the 900 and 7100 Series trctors, install the spring assist chain as follows:
    a. On the left hand side, remove the upper right pivot bolt. This is the hole used for installing chain (A, figure 23) in the following steps, using capscrew, washers, lockwashers, and nut.

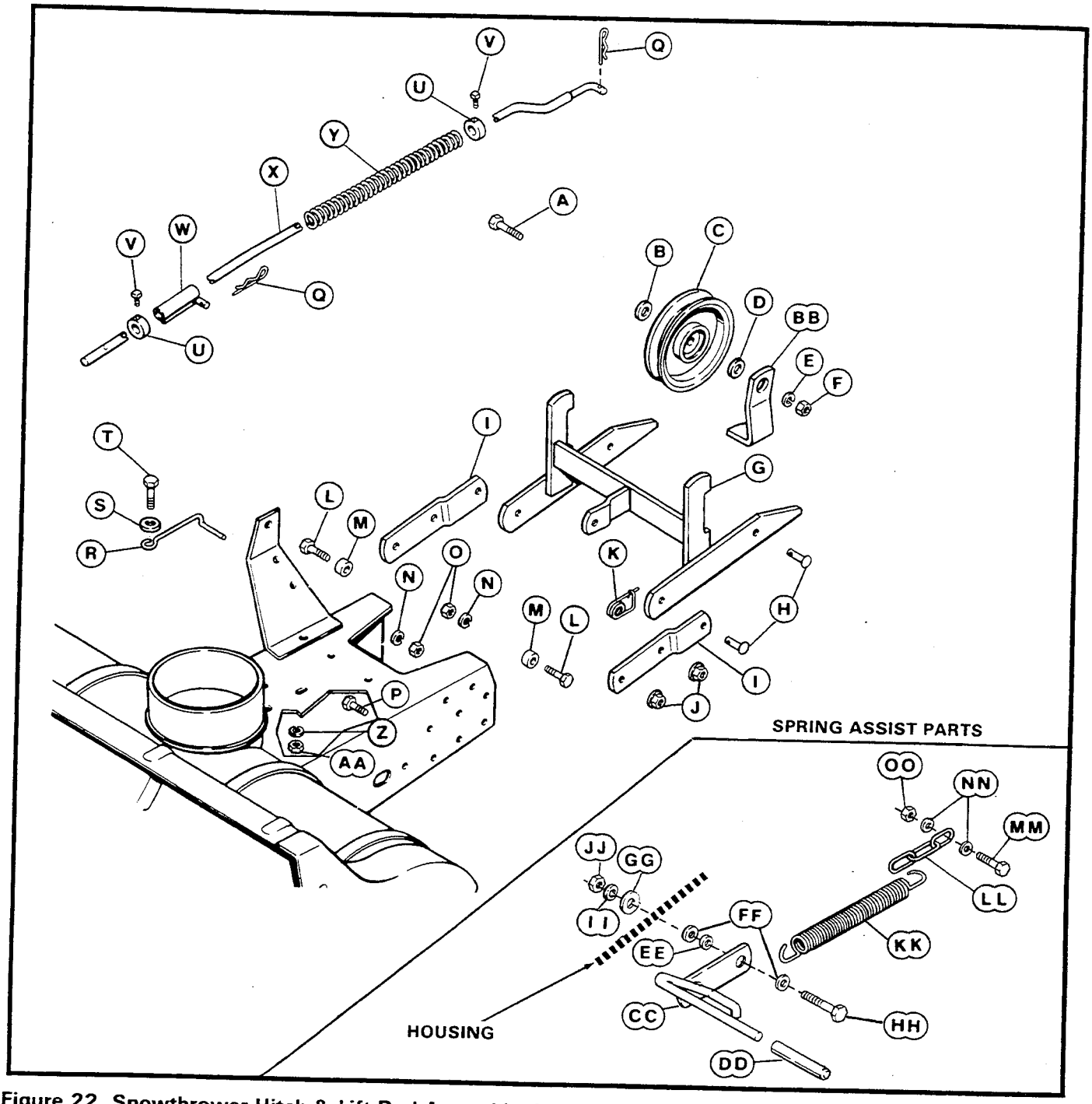


Figure 22. Snowthrower Hitch & Lift Rod Assembly, Exploded View

A. Capscrew, 3/8 x 1-1/2
B. Washer, 5/16
C. Flat Idler Pulley
D. Washer, 5/16
E. Lockwasher, 3/8
F. Nut, 3/8
G. Snowthrower Hitch
H. Pin
I. Frame Clip
J. Flange Locknut, 7/16
K. Spring Clip
L. Capscrew, 3/8 x 1-1/4
M. Spacer
N. Lockwasher, 3/8
O. Nut, 3/8
P. Capscrew, 7/16
Q. Spring Clip
R. Belt Stop
S. Washer, 1/4
T. Capscrew, 5/16 x 3/4
U. Set Collar
V. Setscrew
W. Rod Guide
X. Lift Rod
Y. Spring
Z. Lockwasher, 5/16
AA. Nut, 5/16
BB. Belt Stop
CC. Tension Lever Assembly
DD. Grip
EE. Spacer
FF. Washer
GG. Washer, 13/32
HH. Capscrew, 3/8-16 x 1-1/4
II. Lockwasher
JJ. Nut, Hex, 3/8-16
KK. Spring
LL. Chain (3-Link)
MM. Capscrew, 5/16-18x1-1/4
NN. Washer, 5/16
OO. Nut, Hex, 5/16-18

b. Place washer onto the capscrew. Then place the chain on the capscrew, and then install two washers on the capscrew.

16. Insert the capscrew (B, figure 23) as shown. From inside frame, install lockwasher and nut onto capscrew. Tighten snug only at this time. The spring (C) will be installed in "Installation" section, and hardware will be tightened.

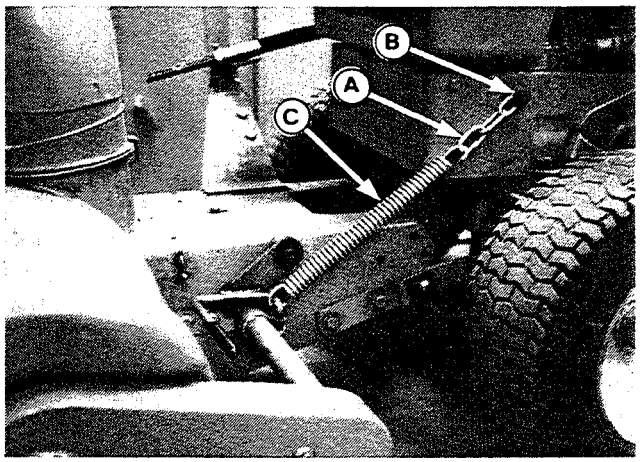


Figure 23. Installing Chain (900, 7100 Series)
A. Chain
B. Capscrew
C. Spring

WINTERIZING THE TRACTOR
(Briggs & Stratton Engines)

The parts required to winterize the Briggs & Stratton engine are shown in figure 24. Install the parts as described in the following paragraphs.

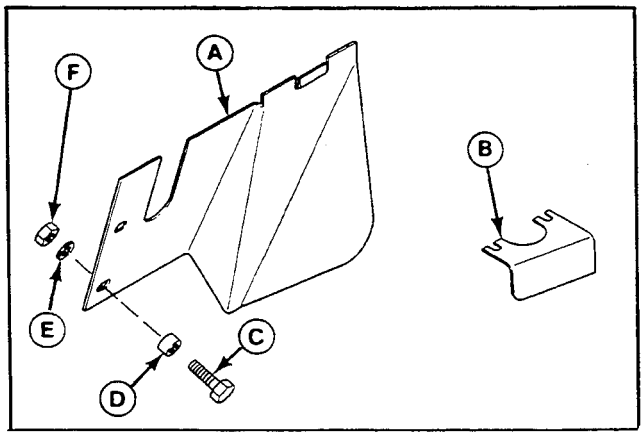


Figure 24. Winterizing Parts

A. Deflector (Qty. 1)
***B. Carburetor Shield (Qty. 1)**
C. Capscrew, 1/4 x 1 (Qty. 2)
D. Spacer
E. Lockwasher, 1/4
F. Nut, 1/4

***Required only for tractors with Mfg. No. 1690433 and lower.**

Mounting Deflector on Early Model Tractors (Mfg. No. 1690433 and lower)

There are three possible variations in mounting the deflector. Install the deflector as described in either step 1, 2 or 3.

1. If the tractor has side mounted headlights, use hardware that secures the left headlight to the hood. The hardware sent with kit is not needed. The deflector will be positioned as shown in figure 25 (headlight not shown).
2. If the tractor does not have side mounted headlight, but has mounting holes, install the deflector as shown in figure 25. Use the two capscrews, lockwashers and nuts from kit. Install capscrews from outside. The two spacers sent with kit are not needed.
3. If the tractor has neither side mounted headlights or mounting holes, two 5/16 inch holes must be drilled. To drill the holes and install the deflector, proceed as follows:
   a. Open the hood. Place the deflector in position as shown in figure 25. Make sure clip on top edge of deflector fully engages the hood. Slide deflector as far as possible toward front of tractor. Mark position of mounting holes and remove the deflector.
   b. Drill 5/16" holes where marked.
   c. Mount deflector using the two capscrews, lockwashers and nuts. Install capscrews from outside, with lockwashers and nuts inside against the deflector.

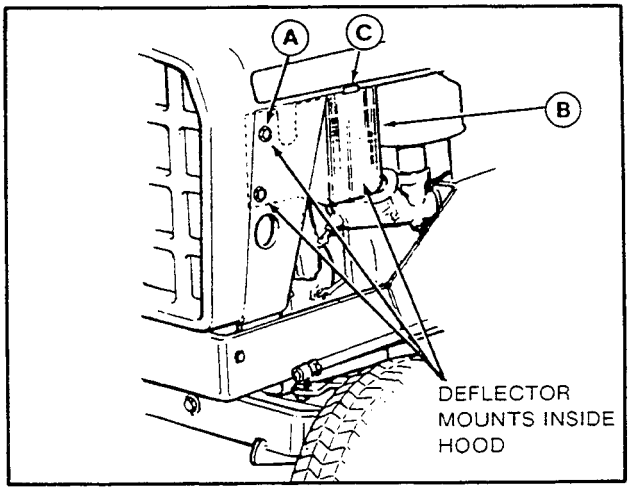


Figure 25. Deflector Installed, Early Model Tractor
A. Capscrew, Lockwasher & Nut
B. Deflector
C. Clip

Mounting Deflector On Later Model Tractors

1. Position the template on the left side of the hood as shown in figure 26. Mark the positions of the two new holes with a punch and remove the template. Drill two 5/16" holes.

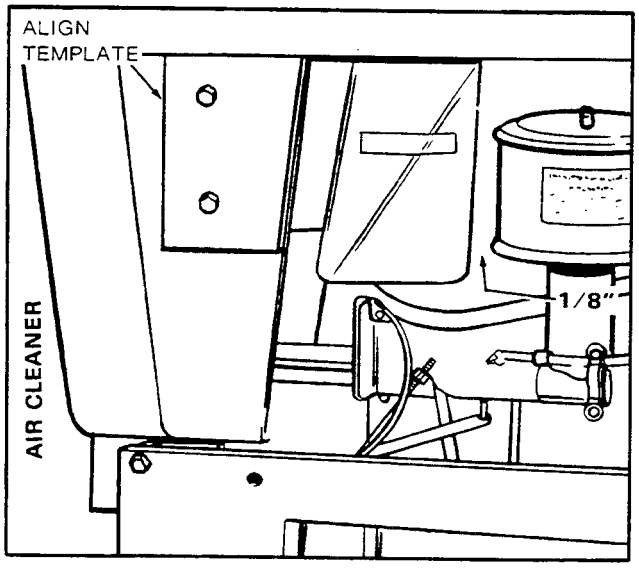


Figure 26. Aligning Template (Later Model Tractor)
(Shown with Deflector Installed)

2. Install the deflector as shown in figure 27. Install the capscrews from the outside. The two spacers are between hood and deflector. Notice that the clip on top of the deflector does not engage the hood. Close the hood. There should be about 1/8" clearance between edge of deflector and air cleaner as shown in figure 26.

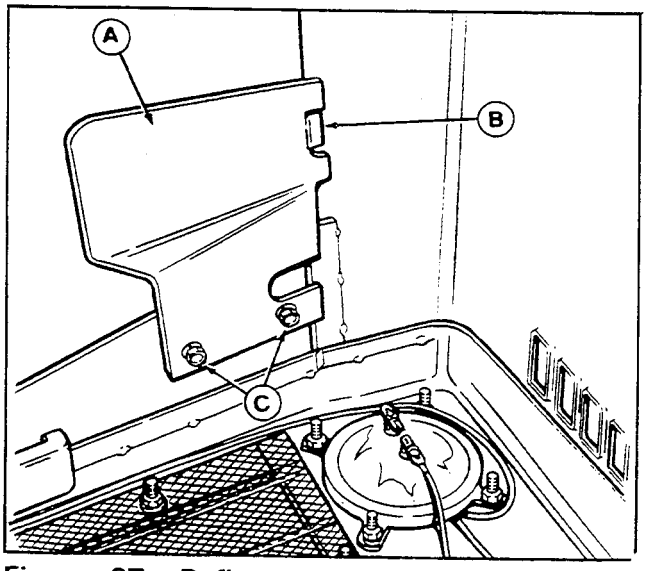


Figure 27. Deflector Installed (Later Model Tractor)
A. Deflector B. Clip C. Lockwasher & Nut

Installing Carburetor Shield on Early Model Tractors

The carburetor shield is shown in figure 28.

1. Remove the air cleaner.
2. Loosen the two screws shown in figure 29 which mount the carburetor to the intake manifold.

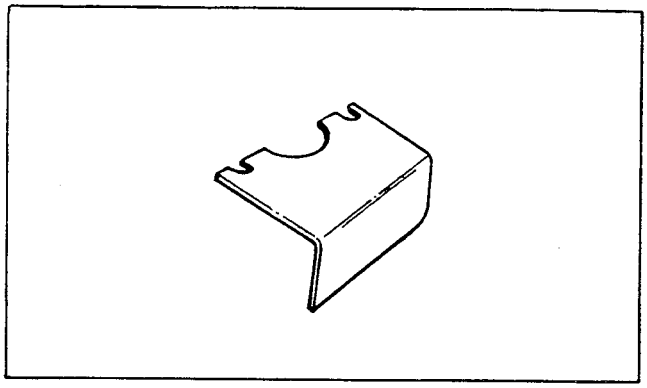


Figure 28. Carburetor Shield (Early Models Only)

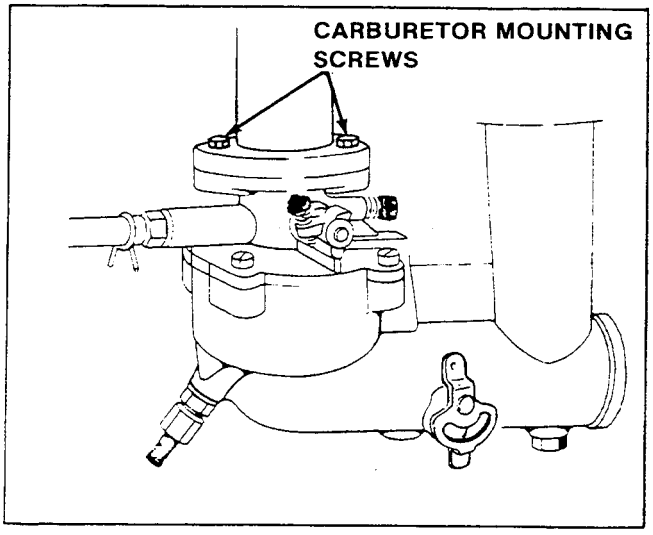
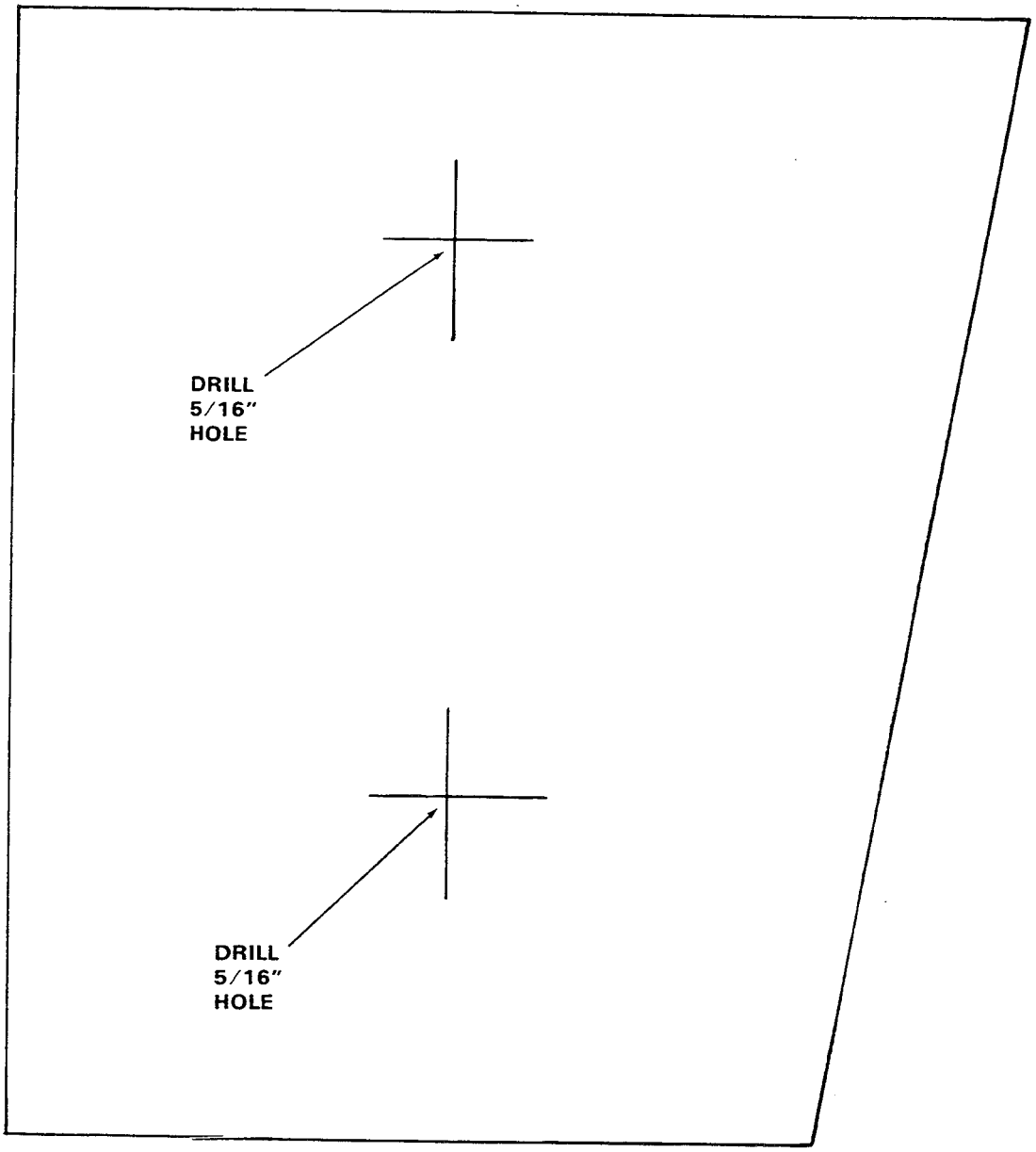


Figure 29. Shield Mounting Screws (Early Models Only)

3. Slide the carburetor sheild in place, above the manifold flange, with the slots underneath the screw heads and lockwashers.
4. Tighten the two mounting screws to hold both carburetor and shield to manifold.

⚠ CAUTION

This kit is for winter use only. Remove for summer operation.



TEMPLATE FOR INSTALLING DEFLECTOR

Tire Chain Installation

NOTE

The tires shown are typical and may not match your model exactly.

Preparation

1. Place the tractor or snowthrower on a level surface. Stop the engine and remove the key.
2. The air pressure in the tires must be 6 to 8 psi to allow installation of chains. Check the pressure and release air if necessary.

Chain Installation, Left Tire

1. Lay the chain out in front of the tire with the "quick hook" (A, figure 30) and "fastener" (B) to the rear as shown. The quick hook must be on the inside and the fastener on the outside. The open sides of the cross chains must be down.

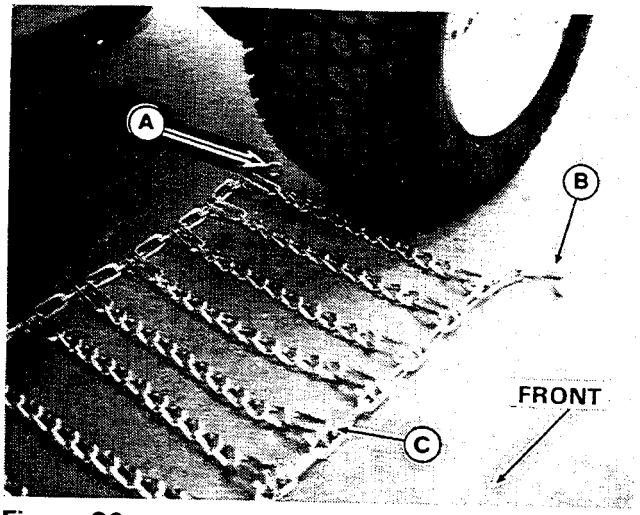


Figure 30.

A. Quick Hook
B. Fastener
C. Cross Chain Hook

2. Place the transmission in NEUTRAL and release the parking brake. On hydrostatic tractors, push the free wheeling latch down to disengage transmission.
3. Roll the tractor forward so that the tire rests on the chain as shown in figures 31 and 32.
4. Set the parking brake and place transmission in gear.
5. Pull the chain over the top of the tire until side chains are tight and cross chains are positioned as shown in figure 34.

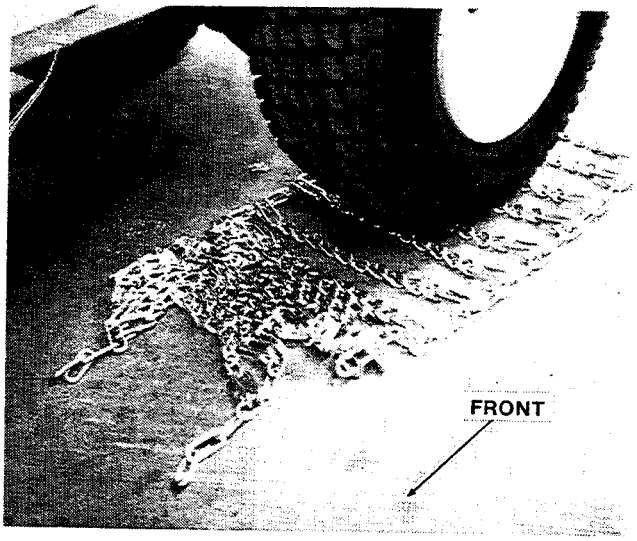


Figure 31.

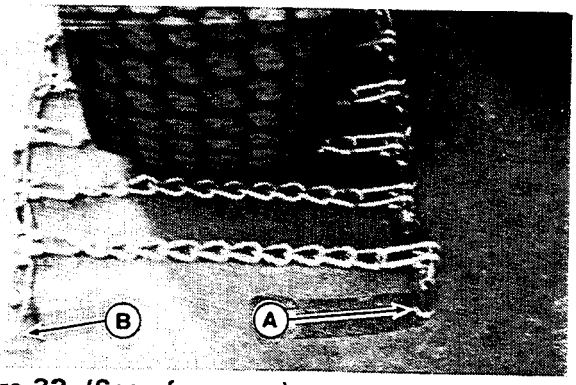


Figure 32. (Seen from rear)

A. Quick Hook
B. Fastener

6. Insert the quick hook (A, figure 33) into one of the end links (B). The correct end link to use depends on the tire size. Select the appropriate link to achieve a snug chain fit.
7. The fastener must be connected so that the chain has a snug fit on the tire as shown in figure 34. A closeup of the fastener connection is shown in figure 35. Insert the fastener thru the appropriate end link and then hook it to the chain as shown in figure 35. A pair of pliers can be used to assist in connecting fastener.

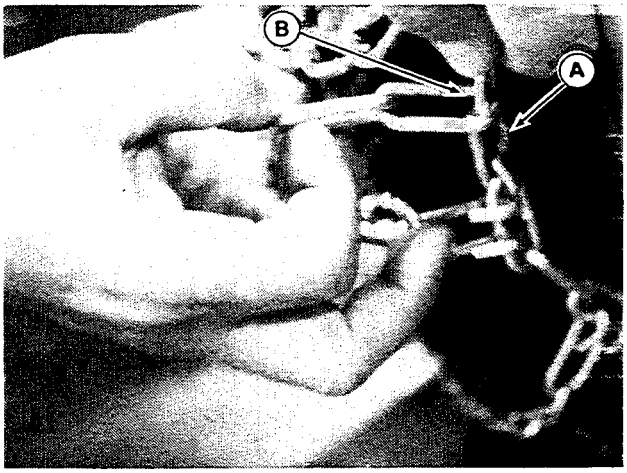


Figure 33.
A. Quick Hook
B. End Link

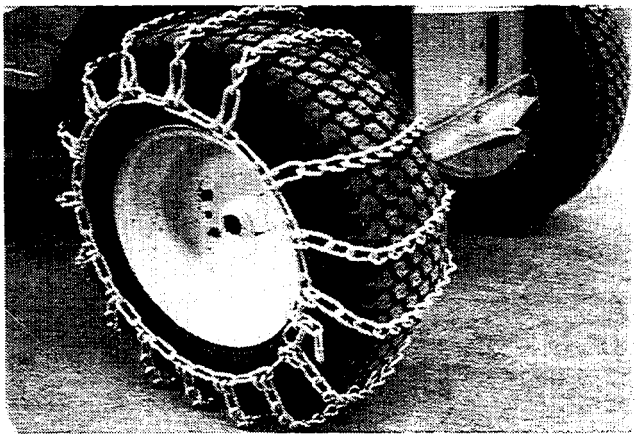


Figure 34.

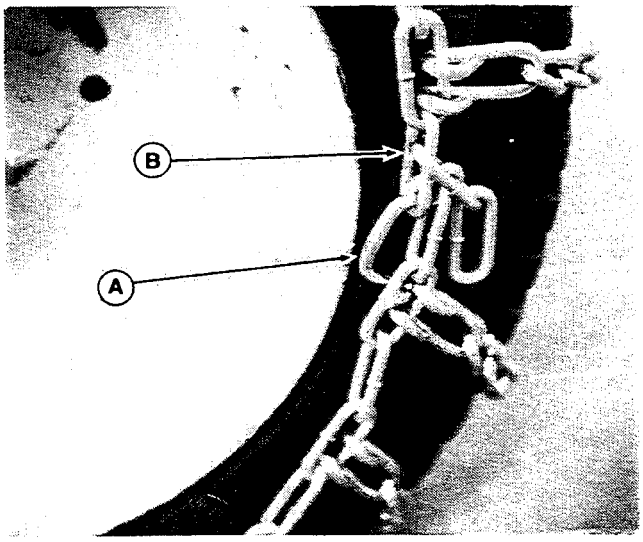


Figure 35.
A. Fastener B. End Link

Chain Installation, Right Tire

1. Lay the chain out in front of the right tire with the quick hook fastener to the front. The quick hook must be on the inside and the fastener on the outside. The open sides of the cross chain hooks must be down.
2. Use the same procedure to install chain on right tire as was used for left tire.

Final Checks

1. For better traction, the tire pressure can be increased to 15 to 18 psi. If the chain is tight due to large tire size, do not increase tire pressure.

⚠ WARNING

Stop the engine, disengage PTO, set the parking brake, remove the key and wait for moving parts to stop before leaving operator's position to adjust chains.

2. After driving the tractor or snowthrower for a short time, recheck each chain. If a chain does not fit snugly, move the fastener and quick hook up another link to tighten chain.

Decal Installation

1. Install two red reflective decals as shown in figure 36.

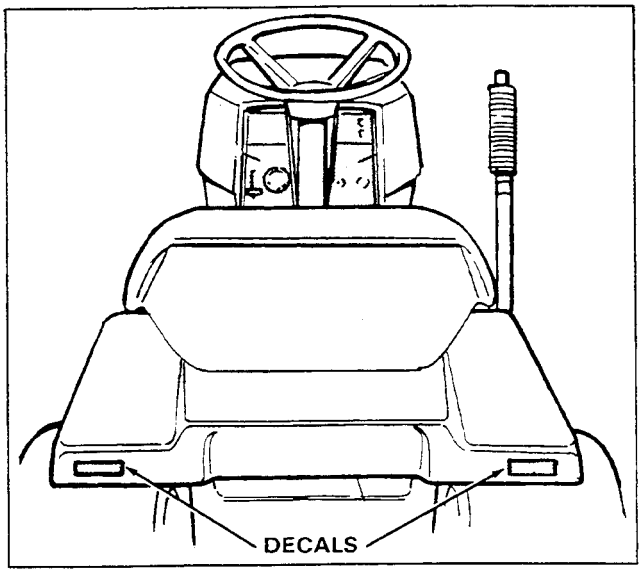
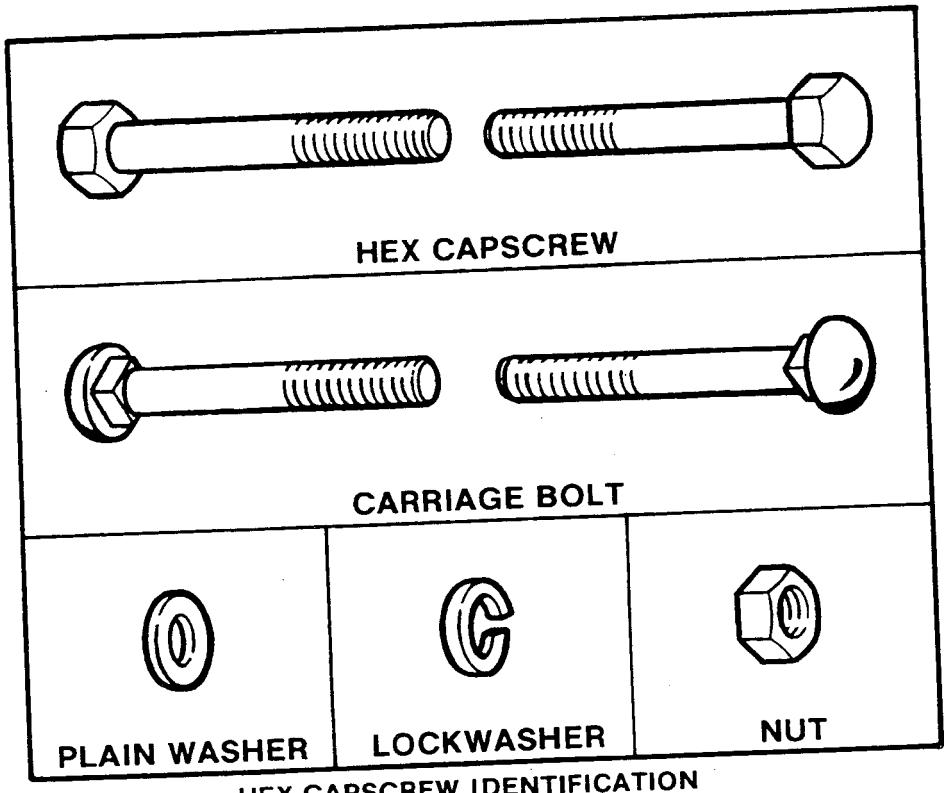


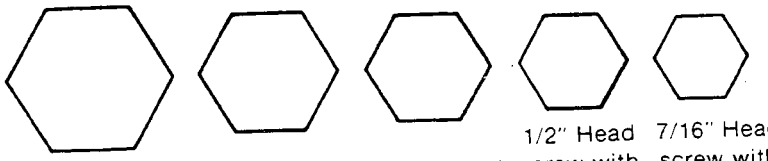
Figure 36.

STANDARD FASTENER IDENTIFICATION CHART



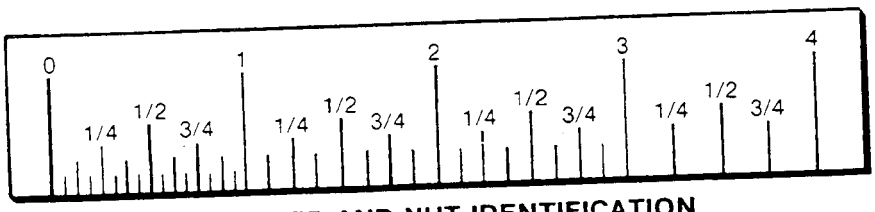
HEX CAPSCREW IDENTIFICATION

Shown below are actual size hex heads for standard screw sizes. Example: a 1/4" screw has a 7/16 head and thus requires a 7/16 wrench. To measure length, use the scale below.



3/4" Head screw with 1/2" S.D. | 5/8" Head screw with 7/16" S.D. | 9/16" Head screw with 3/8" S.D. | 1/2" Head screw with 5/16" S.D. | 7/16" Head screw with 1/4" S.D.

S.D. = Shaft Diameter



WASHER AND NUT IDENTIFICATION

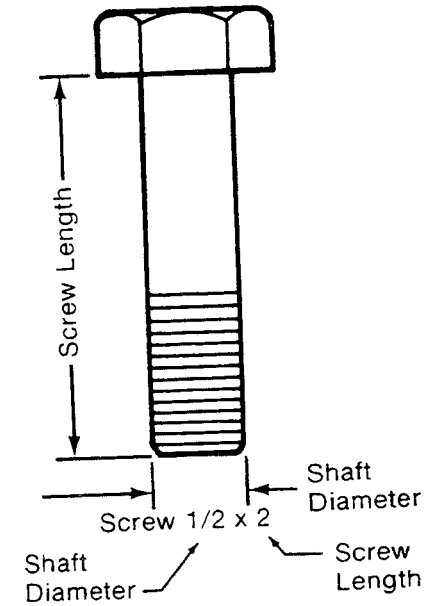
Place the washer or nut on the above scale to determine the inside diameter. The actual inside diameter can vary 1/16 inch. Use the scale for comparison.

Hardware sizes are given in the illustrations throughout this manual.

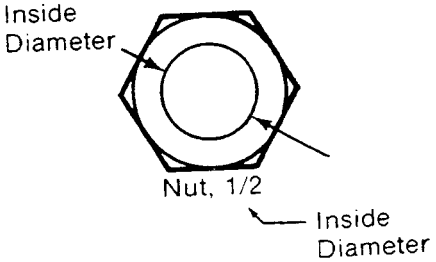
If a washer or nut is identified as "washer, 1/2" or "nut, 1/2", this means the inside diameter is 1/2 inch.

If a screw is identified as "screw, 1/2 x 2", this means the shaft diameter is 1/2 inch and the shaft of the screw is 2 inches long. If a screw is identified as "screw, 1/2-16 x 2", the number "16" means that the screw has 16 threads per inch.

SAMPLE: SCREW IDENTIFICATION



SAMPLE: NUT IDENTIFICATION



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